



**UNITED STATES DEPARTMENT OF COMMERCE  
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
097015.287	01/29/98	NOZAKI	K 980055

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IM51/0324

EXAMINER
CHU, J

ART UNIT	PAPER NUMBER
1752	4

DATE MAILED: 03/24/99

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.  
09/015,287

Applicant(s)  
NOZAKI ET AL

Examiner  
John Chu

Group Art Unit  
1752



☒ Responsive to communication(s) filed on 1/28/98 AND 7/26/98

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claims

☒ Claim(s) 1-23 is/are pending in the application.

Of the above, claim(s) 18-23 is/are withdrawn from consideration.

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 1-17 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☒ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been  
☒ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 3

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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### **DETAILED ACTION**

This Office action is in response to the application filed January 26, 1998 and the IDS received July 16, 1998.

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-17, drawn to polymer composition, classified in class 430, subclass 270.1.
- II. Claims 18-23, drawn to method of use, classified in class 430, subclass 325.

The inventions are distinct, each from the other because:

Inventions Group I and Group II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the composition as recited can be used in a materially different process such as a process for forming parts or structures by injection molding.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of there recognized divergent subject matter, restriction for the examination purposes as indicated is proper.

During a telephone conversation with Steve Adrian on March 19, 1999 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-17.

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Affirmation of this election must be made by applicant in replying to this Office action. Claims 18-23 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP-09-090637 (Nozaki et al).

The claimed invention is drawn to an acid sensitive polymer comprising a film-forming polymer a carboxyl group bonding to a side chain of said polymer main chain, said carboxyl group having a protective group of the lactone structure represented in claim 1 and an additional acidic functional group bonding to a side chain of said polymer main chain., said acidic functional group having an acid-cleavable protective group

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The claims are further directed to a resist composition comprising a polymer as recited in claim 1 and a photoacid generator.

Nozaki et al discloses a photoresist composition comprising a resin having a lactone as a residue in an acrylate monomer with an acid generating compound. The examples disclose butyrolactone on the monomeric group which is similar to the claimed scope, see pages 5 and 6.

Nozaki et al lacks the isomeric lactone compounds recited in dependent claims 1 and 8 as claimed.

It would have been *prima facie* obvious to one of ordinary skill in the art of chemically amplified resist compositions to use isomeric lactone groups in place of the lactone group in Nozaki et al and reasonably expect same or results because the isomers are equivalent groups and the skilled artisan would expect same or similar results for the photolithographic properties as recited in Nozaki et al. Motivation is based on the desire to have an acid cleavable polymer which is aqueous alkaline soluble upon exposure to actinic radiation with the reasonable expectation of having the same results from the isomeric compounds.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Heiba et al and disclose butyrolactones in copolymeric materials.

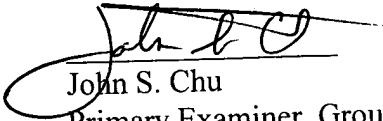
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Chu whose telephone number is (703) 308-2298. The examiner can normally be reached on Monday - Friday from 9:30 am to 6:00 pm.

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The fax phone number for this Group is (703) 305-3599.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.



John S. Chu  
Primary Examiner, Group 1700

J.Chu  
March 20, 1999